

# **METHODS OF FORMING A SEMICONDUCTOR DEVICE HAVING A METAL GATE ELECTRODE AND ASSOCIATED DEVICES**

## Abstract of the Disclosure

5           Methods of forming a semiconductor device having a metal gate electrode  
include sequentially forming a gate insulator, a gate polysilicon layer and a metal-gate  
layer on a semiconductor substrate. The metal-gate layer and the gate polysilicon  
layer are sequentially patterned to form a gate pattern comprising a stacked gate  
polysilicon pattern and a metal-gate pattern. An oxidation barrier layer is formed to  
10   cover at least a portion of a sidewall of the metal-gate pattern.